PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date **July 12, 2010**

FROM: Groundwater Section **Marc Norton**
Reviewer's Name

SUBJECT: Application G- **17106** Supersedes review of **November 6, 2008**
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: **Hillsboro School District 1J** County: **Washington**

A1. Applicant(s) seek(s) **0.123** cfs from **1** well(s) in the **Willamette River** Basin, **Tualatin River, Gordon Creek** subbasin Quad Map: **Scholls**

A2. Proposed use: **Irrigation – 7.94 acres** Seasonality: **April 1 – September 30**

A3. Well and aquifer data **(attach and number logs for existing wells; mark proposed wells as such under logid)**:

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	**WASH55590**	**38437**	**Alluvium**	**0.123**	**01S/02W-10 SE SE**	**1134' N, 168' E fr SE cor DLC 44**
2						
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
	205	**56**	**18** **22**	**12/9/99** **7/23/08**	**107**	**0 – 23**	**+1 – 57** **67 – 83** **103 - 107**		**57 – 67** **83 - 103**	**12** **60**	**18** **62**	**Bail** **p**

Use data from application for proposed wells.

A4. **Comments: A pump capacity test was conducted on the well in July 2008. The pump/well maintained a discharge of 60 gpm for 4 hours with a drawdown of 62'.**

Requested discharge rate is 55 gpm = 0.123 cfs

A5. ☒ **Provisions of the Willamette River** Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments: **The well develops water from a confined aquifer, therefore this portion of the rule does not apply.**

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: **None**
Comments:

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

a. ☐ **is** over appropriated, ☒ **is not** over appropriated, *or* ☐ **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;

b. ☐ **will not** *or* ☐ **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;

c. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the groundwater resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
   i. ☒ The permit should contain condition #(s) 7B – Interference, **7C – Seven year wl measurement, 7P - Well Tag + large measurement and reporting including totalizing flow meter**;
   ii. ☐ The permit should be conditioned as indicated in item 2 below.
   iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

B2. a. ☐ **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;

b. ☐ **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;

c. ☐ **Condition** to allow groundwater production only from the _____ groundwater reservoir between approximately _____ ft. and _____ ft. below land surface;

d. ☐ **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

B3. **Groundwater availability remarks: The well develops water from the shallow sand layers interbedded with clay layers. The Willamette Silt acts as the confining layer but yields water slowly to the sand layers.**

The Department was contacted by the property owner to the south of the school with concerns about interference between the wells. On July 7, 2009, groundwater levels were measured at both wells – WASH 9805 and WASH 55590. The water level was 64.06 feet below land surface and rising at the neighboring well. The water level at the school's well was 26.76 (static). Both wells develop water from the interbedded clay, silt and sand, mostly clay. WASH 9805 is poorly designed/constructed well. There are no perforations therefore all of the water must enter the well from the bottom of the casing at 269 feet. When the water level in the well is lowered due to pumping, especially late in the summer, sand will enter the well. Based on the information gather during the field visit and from the well log, it was determined that the well was not reasonably efficient. Based on OAR 690-008-0001 (8) Substantial or Undue Interference, the well must be reasonably efficient.

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	**Alluvial – Basin Fill Sediments**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: **Groundwater level rose above where it was encountered in the well.**

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	1	**Un-named trib. to Gordon Cr.**	**187**	**200**	**775**	☐	☒	☐	☐	☒
	2	**Gordon Creek**		**155**	**2100**	☒	☐	☐	☐	☒
	3	**Butternut Creek**		**148**	**2750**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **Groundwater levels are below the un-named tributary to Gordon Creek but they are above the levels in Gordon Creek and Butternut Creek. The Willamette Silt acts as a confining layer but is saturated and contributes water to streams.**

Water Availability Basin the well(s) are located within: TUALATIN R> WILLAMETTE R- AT GAGE 14206500

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked ☒ box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	2	☐	☐		**100**	☐	**44.3**	☐	**< 25%**	☐
	3	☐	☐		**100**	☐	**44.3**	☐	**< 25%**	☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

Application G-17106__________continued   Date______________July 12, 2010____

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells**. Otherwise same evaluation and limitations apply as in C3a above.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: **The requested discharge rate is below the limits of this section.**

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation:

C4b. **690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

C5. ☐ **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s) ;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions**

References Used: **See conceptual model discussion for more details.**

Gannett and Caldwell, 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-A

Woodward, Gannett and Vaccaro, 1998, Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-B

Walton, William, 1962, Selected Analytical Methods for Well and Aquifer Evaluation, Bulletin 49, Illinois State Water Resources.

Freeze and Cherry, 1979, Groundwater, Prentice-Hall, Inc.

Conlon and Others, 2005, Ground-Water Hydrology of the Willamette Basin, Oregon, Scientific Report 2005-5168, USGS.

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D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

D2. **THE WELL does not meet current well construction standards based upon:**
- a. ☐ review of the well log;
- b. ☐ field inspection by _____;
- c. ☐ report of CWRE _____;
- d. ☐ other: (specify) _____

D3. **THE WELL construction deficiency:**
- a. ☐ constitutes a health threat under Division 200 rules;
- b. ☐ commingles water from more than one groundwater reservoir;
- c. ☐ permits the loss of artesian head;
- d. ☐ permits the de-watering of one or more groundwater reservoirs;
- e. ☐ other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

D5. **THE WELL**
- a. ☐ **was**, *or* ☐ **was not** constructed according to the standards in effect at the time of original construction or most recent modification.
- b. ☐ I don't know if it met standards at the time of construction.

D6. ☐ **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Groundwater Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. ☐ Well construction deficiency has been corrected by the following actions: _____

_____ _____, 200____.

(Enforcement Section Signature)

D8. ☐ **Route to Water Rights Section (attach well reconstruction logs to this page).**

Detailed Report of Instream Requirements

Instream Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IS73538C	CERTIFICATE	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.50	100.00	100.00	100.00
IS73539A	CERTIFICATE	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
IS73540A	CERTIFICATE	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
IS73541A	CERTIFICATE	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
S86704A	PFO	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40
Maximum		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.50	100.00	100.00	100.00

Detailed Reports for Watershed ID #30201013

TUALATIN R> WILLAMETTE R- AT GAGE 14206500
WILLAMETTE BASIN

Water Availability as of 11/17/2008

Watershed ID #: 30201013 Exceedance Level: 80%

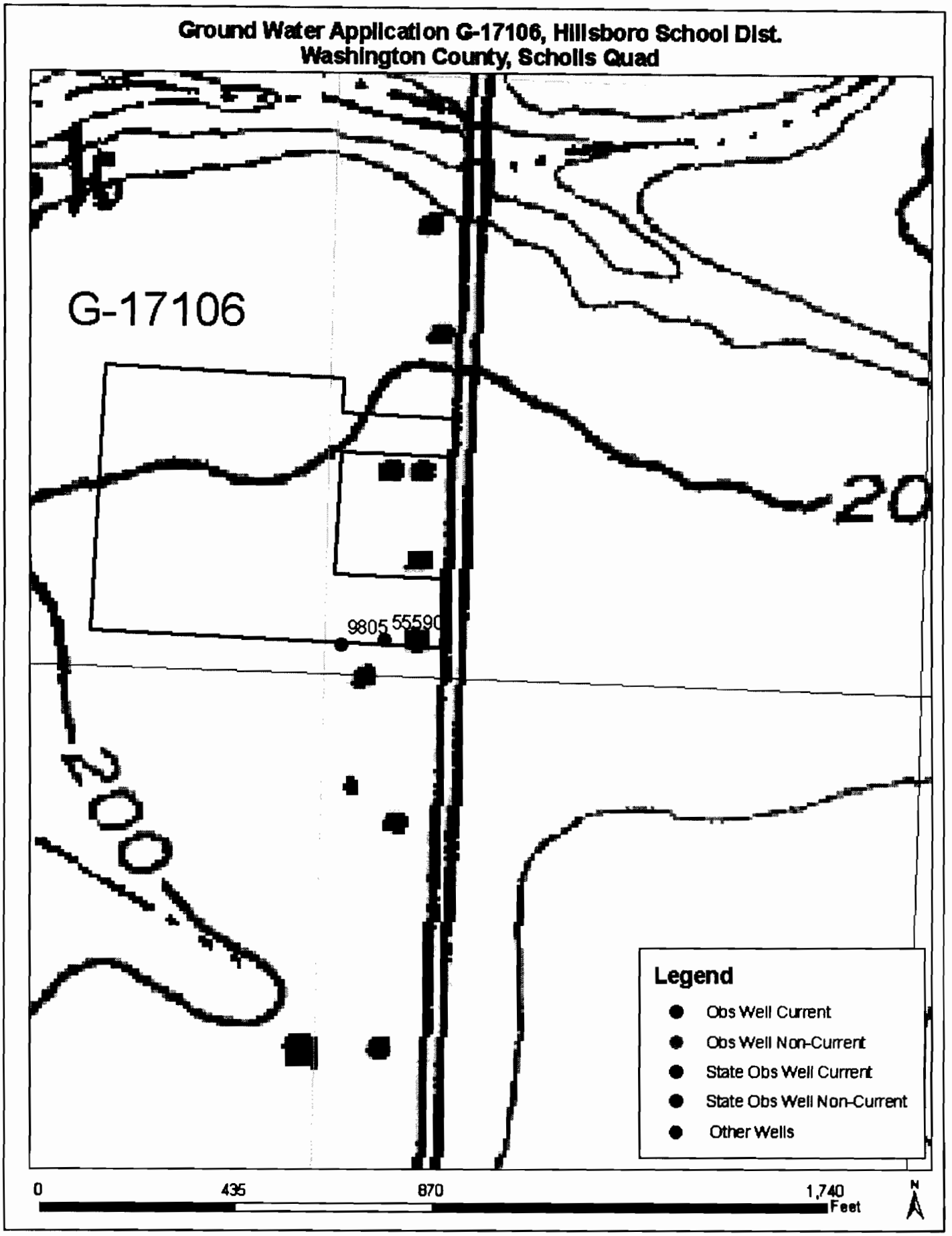
Date: 11/17/2008 Time: 10:13 AM

Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second

Storage at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirement	Net Water Available
Jan	1,090.00	500.00	590.00	0.00	100.00	490.00
Feb	1,420.00	563.00	857.00	0.00	100.00	757.00
Mar	1,140.00	424.00	716.00	0.00	100.00	616.00
Apr	676.00	324.00	352.00	0.00	100.00	252.00
May	332.00	268.00	63.80	0.00	100.00	-36.20
Jun	179.00	297.00	-118.00	0.00	100.00	-218.00
Jul	80.90	329.00	-248.00	0.00	100.00	-348.00
Aug	44.30	312.00	-268.00	0.00	100.00	-368.00
Sep	54.20	267.00	-213.00	0.00	94.50	-307.00
Oct	69.40	151.00	-82.00	0.00	100.00	-182.00
Nov	160.00	258.00	-97.90	0.00	100.00	-198.00
Dec	758.00	483.00	275.00	0.00	100.00	175.00
Storage Acre-Feet at 50%	751,000.00	251,000.00	544,000.00	0.00	72,100.00	502,000.00


Ground Water Application G-17106, Hillsboro School Dist.
Washington County, Scholls Quad
G-17106
9805
55590
200
Legend
Obs Well Current
Obs Well Non-Current
State Obs Well Current
State Obs Well Non-Current
Other Wells
0
435
870
1,740
Feet
N

Wells Fargo Online®

My Spending Report

Healthcare / Pharmacy– June 2010 All Payment Methods

Clicking **Categorize Now** allows you to recategorize the transactions as a group. To recategorize an individual transaction, click **Edit** under the Category column for that transaction.

Categorize Now

Posting Date ▽	Description	Category	Payment Method	Amount
06/22/10	CHECK CRD PURCHASE 06/21 WALGREENS #4229 SALEM OR 434257XXXXXX0408 173040013439029 ?MCC=5912 123006800DA90	Healthcare / Pharmacy - Edit	Check Card/ATM Card XXXX-XXXX-XXXX-0408	$15.00
06/03/10	CHECK CRD PURCHASE 06/02 WALGREENS #4229 SALEM OR 434257XXXXXX0408 154040013859032 ?MCC=5912 123006800DA90	Healthcare / Pharmacy - Edit	Check Card/ATM Card XXXX-XXXX-XXXX-0408	$5.00
Subtotal Healthcare / Pharmacy				**$20.00**

For More Information